

LISTING OF CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1-6. (Canceled).

7. (Currently Amended) A surgical apparatus, comprising:

a flexible tube defining a central axis and having a proximal end and a distal end;

a suction device formed from a flexible material, the suction device being connected to and coaxial with the distal end of the tube and having a flexible distal portion that includes a flexible peripheral sealing surface having a shape and a size for being removably securable to myocardial tissue by suction applied through the flexible tube, the suction device extending from the tube distal end such that the peripheral sealing surface is located distally of the tube distal end and extends outwardly beyond an outer surface of the tube distal end such that suction device across the peripheral sealing surface is wider than the tube distal end;

a metallic or metal-based tissue stimulation element configured to emit stimulation energy and that is too small to form a transmural lesion in myocardial tissue and that is used to stimulate tissue and sense electrical activity in the tissue, the tissue stimulation element being supported on the peripheral sealing surface of the distal portion of the suction device such that the tissue stimulation element is not located within an inner space defined by the suction device, wherein the tissue stimulation element is a discrete tissue stimulation element that does not extend around the peripheral sealing surface; and

a signal line extending from the tissue stimulation element and into the flexible tube for connection to a source of stimulation energy,

wherein the suction device does not carry an apparatus that is capable of forming a transmural lesion in myocardial tissue.

8-9. (Canceled).

10. (Original) A surgical apparatus as claimed in claim 7, wherein the suction device is substantially cup-shaped.

11. (Original) A surgical apparatus as claimed in claim 7, wherein the tissue stimulation element comprises a stimulation electrode.

12. (Withdrawn – Previously Amended) A surgical apparatus as claimed in claim 7, wherein the tissue stimulation element comprises a pair of discrete metallic or metal-based stimulation electrodes.

13-27. (Canceled)

28. (Currently Amended) A surgical system for use with tissue, comprising:

a source of stimulation energy;

a suction source; and

a surgical apparatus including

a flexible tube, operably connected to suction source, the tube defining a central axis and having a proximal end and a distal end,

a suction device formed from a flexible material, the suction device being connected to and coaxial with the distal end of the tube and having a flexible distal portion that includes a flexible peripheral sealing surface having a shape and a size for being removably securable to myocardial tissue by suction applied through the flexible tube, the suction device extending from the tube distal end such that the peripheral sealing surface is located distally of the tube distal end and extends outwardly beyond an outer surface of the tube distal end such that the suction device across the peripheral sealing surface is wider than the tube distal end, a width of the distal surface being greater than a width of the distal end of the tube, the suction device having a shape and a size for being removably securable to myocardial tissue, and

a metallic or metal-based tissue stimulation element that is too small to form a transmural lesion in myocardial tissue and that is used to stimulate tissue and sense electrical activity in the tissue, the tissue stimulation element being operably connected to the source of stimulation energy through a signal line extending from the tissue stimulation element and into the flexible tube and configured to emit stimulation energy, the tissue stimulation element being supported on the peripheral sealing surface of the distal portion of the suction device such that

the tissue stimulation element is not located within an inner space defined by a suction device, wherein the tissue stimulation element is a discrete tissue stimulation element that does not extend around the peripheral sealing surface and suction device does not carry an apparatus that is capable of forming a transmural lesion in myocardial tissue.

29. (Withdrawn – Previously Amended) A surgical system as claimed in claim 28, wherein the tissue stimulation element comprises a pair of discrete metallic or metal-based stimulation electrodes.

30. (Previously Presented) A surgical system as claimed in claim 28, wherein the distal region of the tube does not include an electrode that is large enough to form a transmural lesion in myocardial tissue.

31. (Previously Presented) A surgical system as claimed in claim 28, wherein the tissue stimulation element defines a perimeter of about 1.5 mm to 3 mm.

32. (Previously Presented) A surgical system as claimed in claim 31, wherein the tissue stimulation element defines a thickness of about 0.01 mm.

33. (Previously Presented) A surgical system as claimed in claim 31, wherein the tissue stimulation element defines a diameter of about 0.5 mm to 1.0 mm.

34. (Previously Presented) A surgical system as claimed in claim 28, wherein the source of stimulation energy is configured to supply stimulation pulses that are about 1 millisecond in duration and about 10 mA in amplitude.

35. (Previously Presented) A surgical system as claimed in claim 34, wherein the source of stimulation energy is configured to supply two stimulation pulses per second.

36. (Canceled)

37. (Previously Presented) A surgical apparatus as claimed in claim 7, wherein the tissue stimulation element defines a perimeter of about 1.5 mm to 3 mm.
38. (Previously Presented) A surgical apparatus as claimed in claim 37, wherein the tissue stimulation element defines a thickness of about 0.01 mm.
39. (Previously Presented) A surgical apparatus as claimed in claim 37, wherein the tissue stimulation element defines a diameter of about 0.5 mm to 1.0 mm.
40. (Previously Presented) A surgical apparatus as claimed in claim 7, wherein the suction device does not carry an electrode that is large enough to form a transmural lesion in myocardial tissue.
- 41-42. (Canceled)
43. (Currently Amended) A surgical apparatus, comprising:
a flexible tube defining a central axis and having a proximal end and a distal end;
a suction device formed from a flexible material, the suction device being connected to and coaxial with the distal end of the tube and having a flexible distal portion that includes a flexible peripheral sealing surface having a shape and a size for being removably securable to myocardial tissue by suction applied through the flexible tube, the suction device extending from the tube distal end such that the peripheral sealing surface is located distally of the tube distal end and extends outwardly beyond an outer surface of the tube distal end such that the suction device across the peripheral sealing surface is wider than the tube distal end; and
metallic or metal based tissue stimulation means, carried by the peripheral sealing surface of the distal portion of the suction device distal surface such that the tissue stimulation means is not located within an inner space defined by the suction device, for stimulating tissue and sensing electrical activity in the tissue, wherein the tissue stimulation means does not extend around the peripheral sealing surface;
a signal line extending from the tissue stimulation means and into the flexible tube for connection to a source of stimulation energy, the tissue stimulation means being configured for

emitting energy and stimulating myocardial tissue without forming a transmural lesion in the myocardial tissue;

wherein the suction device does not carry an apparatus that is capable of forming a transmural lesion in myocardial tissue.

44-45. (Canceled).

46. (Previously Presented) A surgical apparatus as claimed in claim 43, wherein the suction device is substantially cup-shaped.

47-53. (Canceled)

54. (Previously Amended) The surgical apparatus as claimed in claim 7, wherein the suction device defines lumen, and the distal surface carrying the tissue stimulation element extends outwardly beyond the lumen.

55. (Previously Amended) The surgical apparatus as claimed in claim 28, wherein the suction device defines lumen, the suction device is connected to the suction source by the lumen, and the distal surface carrying the tissue stimulation element extends outwardly beyond the lumen.

56. (Previously Amended) The surgical apparatus as claimed in claim 43, wherein the suction device defines lumen, and the distal surface carrying the tissue stimulation element extends outwardly beyond the lumen.

57. (Previously Presented) The surgical apparatus of claim 7, wherein the peripheral sealing surface is the widest portion of the suction device.

58. (Previously Presented) The surgical apparatus of claim 28, wherein the peripheral sealing surface is the widest portion of the suction device.

59. (Previously Presented) The surgical apparatus of claim 43, wherein the peripheral sealing surface is the widest portion of the suction device.